Remarks/Arguments

Claims 1, 2, 4, 5, 14-17, and 19-21 are pending. Claims 3, 6-13 and 18 were previously canceled. No amendments are proposed. The following remarks are in response to the Office Action mailed July 6, 2009 ("the Office Action").

Rejections under 35 U.S.C. §102

Claims 1, 2, 4, 5, 12, and 14-21 have been rejected under 35 U.S.C. §102(e) as being anticipated by Harney et al., US Patent No. 6,495,318 ("Harney"). This rejection is traversed.

Applicants disagree that Harney teaches each and every element of the claims. The claims are directed to methods of preparing a DNA vector using at least two collections of nucleic acid molecules that are DNA vector fragments. Fragments in the first collection include a first portion of a third vector element. Fragments in the second collection include a second portion of the third vector element. The third vector element is an insert detection element, which insert detection element is designed such that, when a DNA fragment from the first collection is ligated with a DNA fragment from the second collection, a second vector detection element is created, and if an insert fragment becomes linked between the DNA fragment from the first collection and the DNA fragment of the second collection, the second vector detection element is not created. The methods require a step of admixing at least one DNA vector fragment from each collection with one another under linkage conditions so that hybrid molecules in which each of the DNA vector fragments is linked together are produced, wherein the admixing further comprises admixing at least one isolated nucleic acid molecule containing insert sequence, and selecting a hybrid molecule distinguished from other hybrid molecules as being a molecule in which the second vector detection element is not created.

Harney does not disclose a method of using an insert detection element.

The office action says that "each of the fragments in Fig. 1 [of Harney] may be considered to comprise a first or second portion of a second vector element, which if nucleic acid is inserted between said first and second portion, would prevent creation of a second vector detection element." Figure 1 does not show a method in which an insert sequence prevents formation of a second vector detection element. It shows a schematic picture of a vector and

individual pieces of the vector. Even if Figure 1 did show a configuration where the claimed features could be envisioned, this is not sufficient to establish anticipation.

The office action asserts that "a vector detection element may be a particular pattern of nucleic acid fragments produced upon restriction, and an insertion of nucleic acids between two portions of the 'second vector detection element' would not create said 'second vector detection element.'" Applicants do not see where in Figure 1, or any other passage in Harney, it teaches a method in which restriction digestion and analysis of fragments is used to determine whether or not an insert detection element is present. These features are not expressly shown or inherent in the schematic depiction of vector fragments in Harney.

Harney does not disclose a method that includes selection of a hybrid molecule based on lack of creation of a vector detection element.

The office action maintains that "the reference discloses creating a vector in which an insert sequence (i.e., the gene of interest in Fig. 1) is ligated with the other vector elements, and the insertion would result in a change of structure, resulting in detectable change in a vector element." Figure 1 does not show ligation or selection based on the presence or absence of specific features. It does not show two collections of vector fragments, each of which has a set of recited vector elements, nor does it show admixing of the collections in the presence of an insert sequence and selection of a hybrid molecule based on absence of a vector detection element. In fact, where Harney does describe a method based on Figure 1, it is a method that is clearly not the same as the claimed methods. Harney discusses methods of assembling the fragments shown in Figure 1 as follows:

> The method of the present invention entails the use of specially designed nucleic acid components to assemble a nucleic acid construct. In one embodiment, the nucleic acid components are double stranded nucleic acid molecules having one or more, preferably two terminal sequences **designed to be complementary to the terminal sequences of the nucleic acid component intended to be the adjacent component** in the construct. For example, in a construct containing five components in order 1-5 (see FIG. 1), the terminal sequence E of nucleic acid component 1 would be compatible **only with** the terminal sequence E', of nucleic acid component 2, the terminal sequence D of nucleic acid component 2 with the terminal sequence D' of nucleic acid component 3, the terminal sequence C of

> nucleic acid component 3 with the terminal sequence C' of nucleic acid component 4 and the like (col. 10, lines 59-67; emphasis added).

Each of Harney's fragments in Figure 1 has a unique terminal sequence compatible only with the end of the adjacent fragment. This configuration and method of assembling fragments cannot satisfy the limitations of the claimed methods. In this configuration, the vector would ligate only if an insert was present. A second vector detection element would never form in the absence of an insert sequence because the ends between the portions of the element would not be compatible according to Harney's design. Therefore, one could not use a second vector element to distinguish between the absence and presence of an insert.

For at least the foregoing reasons, Harney does not teach all of the elements of Applicants' claims. In light of the present arguments, Applicant respectfully requests withdrawal of the rejection of claims 1, 2, 4, 5, 14-17, and 19-21 (claims 12 and 18 were canceled) as allegedly anticipated by Harney.

Conclusion

Applicant submits that the present application is in condition for allowance. A notice to that effect is respectfully requested.

If the Examiner believes a telephone call would be useful in expediting prosecution of this application, the undersigned invites the Examiner to call her at the number below.

Please charge any fees associated with this response, or apply any credits, to our Deposit Account Number 03-1721, referencing attorney docket no. 2003320-0032.

Respectfully submitted,

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